

Claims

1. Sensor with components containing silicon on whose sensitive detection element electrical signals can be read by means of a silicon semiconductor system, characterized in that the components containing silicon are coated with a layer of hydrophobic material to prevent interfering signals from moisture.
2. Sensor according to Claim 1, in which the hydrophobic layer consists of molecular chains that form a stable bond to silicon.
3. Sensor according to one of the foregoing claims, in which the molecular chains form a monolayer.
4. Sensor according to one of the foregoing claims, in which the components containing silicon consist of silicon, silicon nitride, or oxidized silicon.
5. Sensor according to one of the foregoing claims, in which the silicon semiconductor system is a field effect transistor (FET).
6. Sensor according to one of the foregoing claims, with a gas sensor, a pressure sensor, or an acceleration sensor being present.
7. Method for producing a gas sensor with a gas-sensitive layer integrated in a field effect transistor (FET) with components containing silicon, on which electrical signals corresponding to a target gas that is present can be read by means of the FET, in which
 - components containing silicon are coated with a hydrophobic layer by means of silanization, and
 - other components belonging to the FET, such as a hybrid electrode/gate, are mounted subsequently.

8. Method according to Claim 6, in which a silane is used for the silanization.
9. Method according to Claim 7, in which a trichlorosilane is used for the silanization.
10. Method according to Claim 8, in which an n-octadecyltrichlorosilane ($C_{18}H_{37}Cl_3Si$) is used for the silanization.